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PASSENGERS IN CONTAINERS

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16. Abstract A futuristic vision of future passenger and cargo transport is presented. To speed up lengthy transit operations, passengers would be accommodated in comfortable, compartment-like containers. Several diagrams show how such containers can be accommodated aboard an aircraft or a helicopter, on a truck, or in a railroad car. A large transport aircraft would be capable of accommodating a number of such containers and hence could be used efficiently for both cargo and passenger service. It is understood that all means of transportation and the entire service network would have to be redesigned; e.g., aircraft bodies would have to be rectangular. The author believes that such a system would result in great economy in both cost and time. Of particular importance is such a system for cargo traffic, which by 1980 is expected to increase six times.			
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PASSENGERS IN CONTAINERS

V. Tarkhanovskiy

On the border of fantasy.

Our country is great. Quite often our passengers have to /4. resort to several types of transportation in order to get somewhere. Busses, trains, taxis, helicopters, all of these lead us to plane-side. Then - a rapid thrust through the air. And...again a journey on your own two feet to the threshold of your apartment. Inconvenient? Very! You know, every "juncture" on such a conveyor belt of transportation involves transfers, buying tickets, getting baggage, waiting to board^a the vehicle. The idea of a transportation system conceived at the Moscow Architectural Institute is something else. Here is how one of its founders, Candidate of Architecture, G.N. Cherkassov, describes it:

I can already foresee that our idea will be greeted with bayonets by aviation specialists. But, you cannot dispute the facts: according to computations by experts, air passengers waste 40-50% of their total travel time on the ground when making journeys from 400 to 800 kilometers. And it is highly doubtful that this problem will resolve itself. The opposite is more likely to happen. The volume of air passengers is increasing at a fast rate. In order to accommodate these passen-

gers, more and more airbusses are travelling the air corridors, transporting several hundred passengers. These airbusses require longer runways. As a result, airports have to be built farther and farther outside the city limits.

There is still another problem plaguing air transportation which for most of us remains in the background. This is a problem with air cargo. More and more goods are transported to the consumer every year by air. And, this quantity will continue to increase, ^{on} judging by the facts. Thus, for example, according to specialists' estimates, the total volume of air cargo transported for the current decade through 1980 should increase six fold. And at the same time the freight stream will increase twice as fast: we expect that by 1980 it will increase by as much as 11 times. These figures, however, which signify the advantages of air freight transportation, also point out the necessity of special cargo planes, immense loading and storage areas, special loading and unloading equipment and service personnel.

But could we not combine the stream of air cargo and passengers? And could we not do it so that the passengers were liberated from transfers? This is the premise from which teachers and candidates in our Institute have been working to solve the problem. And, as a result, they formulated the idea of a system of air transportation using convertible transportation facilities (CTF). The base unit of this system is the container. On the outside it looks like the normal, everyday container that is widely used today to transport

cargo. But on the inside it will look like a comfortable living room with armchairs, ventilation, heating and other items which insure the passengers' maximum comfort.

Although the name of the system bears the description of "air" containers, it is applicable, in theory, to all modes of transportation. The main concept is that these containers should be equally well transported by automobile, train, river boats and ships, monorails and helicopters, conduit "capsules" and airplanes [see diagram].

Imagine that you live in a remote Siberian village that does not have direct air service with your planned vacation spot, say in Sochi or Kislovodsk. But this does not bother you at all. You take your place in a passenger container with the complete conviction that you will not have to leave it until the end of your journey. An autotractor will take the container to the railway station or the river dock where it will be quickly placed on a loading platform or a high-speed hydrofoil. When you arrive in a city with a large airport, your container is placed on a monorail or hoisted onto a helicopter which brings you to plane-side. You do not even have to climb the stairs into the plane. You remain inside the container while on board the airplane and continue your journey in the air. You make no transfers.

Needless to say, this new transportation system provides for a steady stream of passenger and cargo containers to travel side by side. The cargo and passenger containers will be transported by the same transportation facilities and will

handled by the same equipment. The cargo containers will be handled on the same basis as are passenger containers on the airplanes.

It is true that the basic form of the airplane would have to change in order to accomodate the containers. The traditional round or oval cross-section of the fuselage will be replaced with a rectangular or even square shape [see diagram]. It is also possible that in the future this airplane will cease being the only structure. Designers will divide it into the nose section with the pilots' cabin, the tail section with the control equipment and the central part carrying the wings, which will consist of separate containers and depending on the number of containers will change its length. For this, the containers will be equipped with special joints through which air, electric and other engineering supply lines will pass. By the way, in addition to passenger salons, secondary containers are necessary - for entry and exit (double doors), for baggage, kitchen, bathrooms, and service personnel.

What can we expect from the CTF system? In addition to a more comfortable journey and less time wasted on travelling, there will be less flights with partially utilized space, air and ground transportation will be utilized to a maximum, space for passengers at airports in transit will be reduced as will be the space for standing airplanes. And, based on the experiment using containers for river transportation, we can expect that with the transfer to a CTF system the number of secondary and service personnel will decrease up to

10-15 times.

Of course, any change to a CTF system must come about gradually. In principle, many existing types of aircraft, helicopters, autoplatforms and loading-unloading equipment could be adapted for use in transporting passenger containers with a few modifications. And fears that this new system will frighten the passengers are hardly justified: the people do not protest when one train car is disconnected and joined to another. Moreover, the use of passenger containers will help increase safety in air transportation. For example, in the distant future we can envision a parachute system capable of floating an entire salon to the ground in the event of an accident. What could be more realistic than devising a system of catapulting and saving separate containers.

